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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,365	09/25/2003	Baldev S. Ahluwalia	GEMS8081.149	2364

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EXAMINER

CHENG, JACQUELINE

ART UNIT	PAPER NUMBER
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3768

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,365	Applicant(s) AHLUWALIA ET AL.	
	Examiner Jacqueline Cheng	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 and 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/25/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 10, 11, 15, and 16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims include limitation of an inversion pulse angle being less than 180, however to cause an inversion recovery a 180 pulse has to be applied. So therefore the claim limitation is indefinite as to whether the angle is to be 180 (an inversion pulse) or less than 180 as claimed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-6, 8, 10, 12-18** rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,320,377 B1 (herein referred to as Miyazaki et al).
5. **Claims 1-6, 8, 13, 17, 18:** Miyazaki et al. discloses a method for MR imaging. The apparatus of the MR system includes the usual magnetic field gradient generating components

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placed about a bore of a magnet, transmitting receiving components for transmitting and receiving a RF signal, and a control and arithmetic operation components, including a computer, for control of the whole system and for image reconstruction (col. 5 line 10-20). The MR imaging of Miyazaki et al. includes pre-saturating a region with saturation pulses. These saturation pulses suppress unwanted tissues signals so that only the tissues of interest returns a signal. Since the type of tissues that are in these regions to be imaged can vary, it is obvious that the length of the train of saturation pulses must be determined on the fly. The computer, one it determines the types of tissues that are involved and need to be suppressed, can determine the null point of the tissue, the T1 times for the tissues, and the optimal number of RF pulses to be applied. Most of these saturation pulses are either a train of pulses or many 180-degree pulses. It can be seen in figure 10 that in Miyazaki et al. they combine the two, applying a 180-degree inversion pulse before the train of saturation pulses. This sequence is then repeated, so therefore another inversion pulse follows the pulse train after TR.

6. **Claims 10, 15 and 16:** Examiner is interpreting the claim as a first inversion pulse, which means that the pulse is 180 degrees, and cannot be less than 180, as mentioned in the 112(2nd) rejection above. Figure 13 of Miyazaki et al shows the multiple inversion pulses which are to drive transverse magnetization of the suppressed tissue to steady state.
7. **Claim 12:** Miyazaki et al. discloses performing 2D and 3D transform on the data.
8. **Claim 14:** It is inherent in any computer system set up for MR imaging that it would take user inputs about how the user wants the image to be taken, excited with what type of pulses, and with the target parameters.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 7, 9, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al as applied to claim 1 above, and further in view of US Patent No. 6,380,736 B1 (herein referred to as Hajnal). Hajnal discloses that the suppressed tissue, the CSF at it's null point it placed at the centre of the k-space (summary). It would be obvious to one with ordinary skill in the art at the time of the invention to combine Hajnal with Miyazaki et al. as both inventions disclose using the FLAIR sequence to suppress signals.

Allowable Subject Matter

11. Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Cheng whose telephone number is 571-272-5596. The examiner can normally be reached on M-F 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571-272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC


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